

**LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF ENVIRONMENTAL SERVICES**

**STATEMENT OF BASIS<sup>1</sup>**

**PROPOSED PART 70 OPERATING PERMIT NO. 2350-V2**

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.**

**LAKE CHARLES, CALCASIEU PARISH, LOUISIANA**

**Agency Interest (AI) No. 1255**

**Activity No. PER20090024**

**I. APPLICANT**

The applicant is: PPG Industries, Inc.  
P. O. Box 1000  
Lake Charles, Louisiana 70602-1000

Facility: Lake Charles Complex – Greater EDC Unit

SIC Code: 2869

Location: 1300 PPG Drive  
Lake Charles, Calcasieu Parish, Louisiana  
Approximate UTM coordinates are 472.5 kilometers East and  
3,343.5 kilometers North in Zone 15

**II. PERMITTING AUTHORITY**

The permitting authority is:

Louisiana Department of Environmental Quality  
Office of Environmental Services  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313

**III. CONTACT INFORMATION**

Additional information may be obtained from:

Dr. Qingming Zhang  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313  
Phone: (225) 219-3181

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<sup>1</sup> 40 CFR 70.7(a)(5) and LAC 33:III.531.A.4 require the permitting authority to “provide a statement that sets forth the legal and factual basis for the proposed permit conditions of any permit issued to a Part 70 source, including references to the applicable statutory or regulatory provisions.”

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC. LAKE CHARLES, CALCASIEU PARISH, LOUISIANA Agency Interest (AI) No. 1255 Activity No. PER20090024 Proposed Permit No. 2350-V2

#### IV. FACILITY BACKGROUND AND CURRENT PERMIT STATUS

PPG Industries, Inc.'s (PPG's) Lake Charles Complex is located at the intersection of I-10 and Loop I-210 near Westlake, Louisiana. The facility consists of three highly integrated business areas as described below.

- Chlor/Alkali: In this area, chlorine, caustic, and hydrogen are produced through the electrolysis of brine using diaphragm and membrane technology.
- Derivatives: In this area, chlorine is combined with ethylene and ethylene derivatives to produce chlorinated hydrocarbons and muriatic acid (hydrochloric acid).
- Silicas: In this area, sand is heated with either caustic or soda ash to produce sodium silicate, from which different grades of products are produced.

Electricity and steam required for the facility operations are produced in the Power/Utilities area. Transfer operations for raw materials and products involve the transfer to and from trucks, ships, barges, tank cars, hopper cars, and drums. Raw materials and products are also transferred via pipeline.

The Lake Charles Complex is organized into the following units/areas: VC Production, Power/Utilities, Silicas, Complex Support Facilities, Chlor/Alkali Plant, Mercury Recovery, Membrane, Derivatives Docks, Derivatives Shipping, Derivatives Plant Common Sources, Greater EDC, Waste Recovery, Per/Tri, TE-2, and Incinerators Area.

This permit will be a renewal and modification to Part 70 Operating Permit No. 2350-V1 for the Greater EDC Unit, which was issued on August 14, 2009.

The Lake Charles Complex is a designated Part 70 source. It is currently operating under the following Part 70 operating permits:

Permit No.	Unit or Source	Date Issued
2359-V1	Complex Support Facilities	07/05/2007
2206-V0	Derivatives Docks	06/29/2006 (AA 07/28/2009)
2270-V1	Per/Tri Unit	10/12/2009
2269-V2	Derivatives Plant Common Sources	07/28/2009
2231-V1	Mercury Recovery Unit	10/24/2007 (AA 01/29/2008)
3021-V1	Membrane Unit	10/12/2009
2085-V3	Silicas Unit	09/10/2009
897-V1	VC Production Unit	10/12/2009
2040-V2	Incinerators Area	05/22/2009
2695-V1	TE-2 Unit	07/28/2009

## STATEMENT OF BASIS

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### LAKE CHARLES, CALCASIEU PARISH, LOUISIANA

Agency Interest (AI) No. 1255

Activity No. PER20090024

Proposed Permit No. 2350-V2

Permit No.	Unit or Source	Date Issued
2350-V1	Greater EDC Unit	08/14/2009
2216-V0	Waste Recovery Unit	06/29/2004 (AA 11/14/2005)
2798-V1	Chlor/Alkali Plant	05/01/2009
2229-V1	Derivatives Shipping Facility	06/29/2006 (AA 07/28/2009)
2106-V2	Power/Utilities	03/20/2006 (AA 08/14/2009)

In addition, PSD Permits PSD-LA-642 (11/23/1999) and PSD-LA-637 (M-1) (5/24/2002, AA 7/28/2009)) and Acid Rain Permit 2646-IV1 (10/11/2006) were also issued to the complex.

## V. PROPOSED PERMIT/PROJECT INFORMATION

A permit application, dated August 20, 2009, was submitted by PPG Industries, Inc. requesting a Part 70 operating permit renewal and modification.

### Process Description

The Greater EDC Unit covered under this permit produces:

- Ethylene dichloride (1,2-dichloroethane or EDC),
- Trans-1,2-dichloroethylene (VersaTRANS™),
- Vinylidene chloride monomer (1,1-dichloroethylene or VDCM,
- Ethyl chloride (chloroethane or EC), and
- Hydrochloric acid (HCl).

Process descriptions for the Greater EDC Unit are given below.

### Liquid Phase (LP) EDC Production

EDC is produced by the liquid-phase process in the EDC process unit, which consists of No. 1 LP-EDC and No. 2 EDC plants. The EDC is formed by an exothermic reaction between chlorine and ethylene in the presence of a catalyst.

Ethylene and chlorine flow into the bottom of the reactor and react in the reactor liquor composed primarily of EDC. The heat of reaction boils the EDC overhead where it is condensed. Some of the condensed EDC is recycled back into the reactor with the rest going to the HCl stripper. The stripper removes any dissolved HCl or other gases from the EDC. Heavy impurities from the reaction process are then removed by distillation and are sent to the recovery still. The EDC product is used as a feedstock for Derivatives Plant products or is shipped by barge, ship, truck, or rail to customers.

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.  
LAKE CHARLES, CALCASIEU PARISH, LOUISIANA  
Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

Process vent gases are combusted in facilities covered by a separate permit (for the Incinerators Area). Tars and spent catalyst from the LP-EDC production process are either reused, recycled or are combusted.

### VersaTRANS™ Production

VersaTRANS™ is produced from a feedstock of light chlorinated hydrocarbons that are by-products (lights) from the Per/Tri production unit. The lights that consist primarily of trans-1,2-dichlorethylene (Trans) and cis-1,2-dichlorethylene (Cis) are routed to a stripper to remove any HCl or other non-condensable impurities. The stream is then sent to the product still where a catalyst is added to convert Cis to Trans. The Trans is filtered and shipped to customers. Process vent gases are sent to the combustion devices covered in a separate permit (Incinerators Area).

### VDCM Production

The VDCM production unit consists of two sections. The first section distills TCE (1,1,2-trichloroethane) feedstock from a Derivatives Plant byproduct stream, and the second section converts the TCE to VDCM product.

First, from a by-product stream produced elsewhere in the Derivatives Plant, TCE is separated from a mixture of TCE, symmetrical Tetra (1,1,2,2-tetrachloroethane), and unsymmetrical Tetra (1,1,1,2-tetrachloroethane). The mixture is fed to the heavies still to separate the TCE from the heavier components. Then, the TCE Stripper removes trace amounts of light impurities. The light impurities and the heavier components are used as feedstock for chlorinated solvent production. The resulting high-purity TCE is routed to the VDCM reactor, where the TCE reacts with caustic soda to produce VDCM, sodium chloride, and water.

The salt water is separated from the VDCM using phase separation and azeotropic distillation in a drying still. The VDCM is sent to the VDC Still that separates the VDCM from heavy impurities. VDCM is then stabilized and sent to customers by railcars and tank trucks.

Process water is treated onsite in NPDES/LPDES facilities and process vent gases are combusted. Process vent gases are sent to the combustion devices covered in a separate permit (Incinerators Area).

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.  
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Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

### Ethyl Chloride Production

The ethyl chloride (chloroethane or EC) production unit is designed to produce a high purity liquid EC by reacting ethylene and HCl in a liquid-phase reactor in the presence of a catalyst. The heat of reaction is removed by circulating a portion of the reactor liquor through coolers.

The reacted stream overflows to a flasher where tars and spent catalyst are removed. Process gases are cooled and routed to a stripper, where excess HCl gas is removed. Further distillation of the EC stream removes the remaining impurities. The finished EC product is pumped to storage prior to being shipped to customers by trucks, railcars, and ships.

Process vent gases are fed to a system of vent condensers for recovery of any EC vapor. Condensed EC is routed back to the distillation process. Non-condensables are routed to the complex HCl distribution header to be used as feedstock in other Derivatives process units or are routed to the combustion devices covered in a separate permit (Incinerators Area).

### HCl Production

The HCl unit consists of two processes – HCl Absorption and Metals Removal.

In the absorbers, strong acid is formed by the absorption of HCl gas in weak acid. The HCl gas passes through carbon bed filters to remove trace amount of organic impurities before entering the absorber. The heat of absorption is removed by cooling water flowing through the shell side of the absorber.

The resulting strong HCl acid is removed from the bottom of the absorber and pumped into a process vessel. Non-condensables and unabsorbed HCl gas leave the bottom of the absorber and are fed into the bottom of the tails tower, where they come in contact with weak. In the tails tower, weak acid is used to recover the unabsorbed HCl gas from the non-condensable stream. The gas stream is then routed to the tails tower vent scrubber before exiting into the atmosphere.

The Metals Removal System is used to recover usable hydrochloric acid from metals contaminated wastewater streams within Derivatives. A vaporized HCl/water stream is condensed and routed to storage. The metals contaminated stream exiting the process is routed to PPG's NPDES/LPDES system for treatment.

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC. LAKE CHARLES, CALCASIEU PARISH, LOUISIANA Agency Interest (AI) No. 1255 Activity No. PER20090024 Proposed Permit No. 2350-V2

#### Recovery Operations

The Derivatives Plant is a highly integrated production area with many inter-unit transfers of product intermediates. EDC, for example, is a feedstock for several Derivatives processes. Within the LP-EDC production area are facilities that are used to treat by-product streams from the Derivatives Plant. Product from the Waste Recovery Unit and distillation bottoms from the LP-EDC unit are fed to the Recovery Still for further distillation. EDC from these streams is recovered in the Recovery Still distillation overhead and is recycled as feedstock within Derivatives.

Recovery Still distillation bottoms are then, normally, processed through the ECB still to remove impurities, which can affect product purity in the Per/Tri Production Unit. ECB still bottoms provide feedstock for both the Per/Tri and VDCM processes.

#### **Proposed Modifications**

With this renewal and modification, a new portable carbon drum is added as a potential alternative control device. Additionally, the TCE Storage Tank has been demolished and is therefore deleted from the permit. The reconciliation of certain emission limits, due to new test data, improved emission factors, and other improved information, is also made in this permit.

## VI. ATTAINMENT STATUS OF PARISH

<u>Pollutant</u>	<u>Attainment Status</u>	<u>Designation</u>
PM <sub>2.5</sub>	Attainment	N/A
PM <sub>10</sub>	Attainment	N/A
SO <sub>2</sub>	Attainment	N/A
NO <sub>2</sub>	Attainment	N/A
CO	Attainment	N/A
Ozone <sup>2</sup>	Attainment	N/A
Lead	Attainment	N/A

## VII. PERMITTED AIR EMISSIONS

Sources of air emissions are listed on the “Inventories” page of the proposed permit.

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<sup>2</sup> VOC and NO<sub>x</sub> are regulated as surrogates.

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC.

### LAKE CHARLES, CALCASIEU PARISH, LOUISIANA

Agency Interest (AI) No. 1255

Activity No. PER20090024

Proposed Permit No. 2350-V2

Estimated emissions from the facility in tons per year are as follows:

Pollutant	Before	After	Change
PM <sub>10</sub>	4.58	4.58	-
SO <sub>2</sub>	-	-	-
NO <sub>x</sub>	-	-	-
CO	0.07	0.07	-
VOC	18.36	41.95	+ 23.59

LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP), including all toxic PM<sub>10</sub> and VOC compounds, are listed below. This list encompasses all Hazardous Air Pollutants (HAP) regulated pursuant to Section 112 of the Clean Air Act. Note, however, all TAPs are not HAPs (e.g., ammonia, hydrogen sulfide).

Pollutant	Before	After	Change
1,1,1-Trichloroethane	-	< 0.01	< 0.01
1,1,2,2-Tetrachloroethane	-	< 0.01	< 0.01
1,1,2-Trichloroethane	1.58	0.09	- 1.49
1,1-Dichloroethane	0.01	0.03	+ 0.02
1,2-Dichloroethane	0.92	4.359	+ 3.439
Carbon Tetrachloride	-	0.01	+ 0.01
Chlorine	0.10	0.02	- 0.08
Chloroethane	0.47	1.81	+ 1.34
Chloroform	0.03	0.46	+ 0.43
Dichloromethane	-	< 0.01	< 0.01
Hexachloroethane	-	0.02	+ 0.02
Hydrochloric Acid	0.57	0.50	- 0.07
Methyl Chloride	-	< 0.01	< 0.01
Tetrachloroethylene	0.63	< 0.01	- 0.63
Trichloroethylene	0.02	0.15	+ 0.13
Vinyl chloride	0.36	0.01	- 0.35
Vinylidene chloride	0.05	< 0.01	- 0.05

This facility is part of a major source of criteria pollutants, part of a major source of HAPs, and part of a major source of TAPs.

Permitted limits for individual emissions units and groups of emissions units, if applicable, are set forth in the tables of the proposed permit entitled "Emission Rates for Criteria Pollutants" and "Emission Rates for TAP/HAP & Other Pollutants." These tables are part of the permit.

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.  
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Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

Emissions calculations can be found in Appendix A of the permit application. The calculations address the manufacturer's specifications, fuel composition (e.g., sulfur content), emissions factors, and other assumptions on which the emissions limitations are based and have been reviewed by the permit writer for accuracy.

### **General Condition XVII Activities**

Very small emissions to the air resulting from routine operations that are predictable, expected, periodic, and quantifiable and that are submitted by the applicant and approved by the Air Permits Division are considered authorized discharges. These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements. Approved General Condition XVII activities are noted in Section VIII of the proposed permit.

### **Insignificant Activities**

The emissions units or activities listed in Section IX of the proposed permit have been classified as insignificant pursuant to LAC 33:III.501.B.5. By such listing, the LDEQ exempts these sources or types of sources from the requirement to obtain a permit under LAC 33:III.Chapter 5. However, such emissions are considered when determining the facility's potential to emit for evaluation of applicable requirements.

## **VIII. REGULATORY APPLICABILITY**

Regulatory applicability is discussed in three sections of the proposed permit: Section X (Table 1), Section XI (Table 2), and Specific Requirements. Each is discussed in more detail below.

### Section X (Table 1): Applicable Louisiana and Federal Air Quality Requirements

Section X (Table 1) summarizes all applicable federal and state regulations. In the matrix, a "1" represents a regulation applies to the emissions unit. A "1" is also used if the emissions unit is exempt from the emissions standards or control requirements of the regulation, but monitoring, recordkeeping, and/or reporting requirements apply.

A "2" is used to note that the regulation has requirements that would apply to the emissions unit, but the unit is exempt from these requirements due to meeting a specific criterion, such as it has not been constructed, modified, or reconstructed since the regulation has been effective. If the specific criterion changes the emissions unit will have to comply with the regulation at a future date. Each "2" entry is explained in Section XI (Table 2).

A "3" signifies that the regulation applies to this general type of source (e.g., furnace, distillation column, boiler, fugitive emissions, etc.), but does not apply to the particular emissions unit. Each "3" entry is explained in Section XI (Table 2).



## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.  
LAKE CHARLES, CALCASIEU PARISH, LOUISIANA  
Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

If blank, the regulation clearly does not apply to this type of emissions unit.

### Section XI (Table 2): Explanation for Exemption Status or Non-Applicability of a Source

Section XI (Table 2) of the proposed permit provides explanation for either the exemption status or non-applicability of given federal or state regulation cited by 2 or 3 in the matrix presented in Section X (Table 1).

### Specific Requirements

Applicable regulations, as well as any additional monitoring, recordkeeping, and reporting requirements necessary to demonstrate compliance with both the federal and state terms and conditions of the proposed permit, are provided in the “Specific Requirements” section. Any operating limitations (e.g., on hours of operation or throughput) are also set forth in this section. Associated with each Specific Requirement is a citation of the federal or state regulation upon which the authority to include that Specific Requirement is based.

#### **1. Federal Regulations**

##### 40 CFR 60 – New Source Performance Standards (NSPS)

No NSPS provisions are applicable to the facility.

##### 40 CFR 61 – National Emission Standards for Hazardous Air Pollutants (NESHAP)

The following subparts are applicable at the facility: A, M, and FF. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

##### 40 CFR 63 – Maximum Achievable Control Technology (MACT)

The following subparts are applicable at the facility: A, F, G, and H. Applicable emission standards, monitoring, test methods and procedures, recordkeeping, and reporting requirements are summarized in the “Specific Requirements” section of the proposed permit.

##### Clean Air Act §112(g) or §112(j) – Case-By-Case MACT Determinations

A case-by-case MACT determination pursuant to §112(g) or §112(j) of the Clean Air Act was not required.

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC.

### LAKE CHARLES, CALCASIEU PARISH, LOUISIANA

**Agency Interest (AI) No. 1255**

**Activity No. PER20090024**

**Proposed Permit No. 2350-V2**

#### 40 CFR 64 – Compliance Assurance Monitoring (CAM)

Per 40 CFR 64.2(a), CAM applies to each pollutant-specific emissions unit (PSEU) that 1) is subject to an emission limitation or standard, 2) uses a control devices to achieve compliance, and 3) has potential pre-control device emissions that are equal to or greater than 100 percent of the amount, in TPY, required for a source to be classified as a major source.

There are no emissions units in this facility that are subject to CAM.

#### Acid Rain Program

The Acid Rain Program, 40 CFR Part 72 – 78, applies to the fossil fuel-fired combustion devices listed in Tables 1-3 of 40 CFR 73.10 and other utility units, unless a unit is determined not to be an affected unit pursuant to 40 CFR 72.6(b). LDEQ has incorporated the Acid Rain Program by reference at LAC 33:III.505. The facility is not subject to the Acid Rain Program.

### **2. SIP-Approved State Regulations**

Applicable state regulations are also noted in Section X (Table 1) of the proposed permit. Some state regulations have been approved by the U.S. Environmental Protection Agency (EPA) as part of Louisiana's State Implementation Plan (SIP). These regulations are referred to as "SIP-approved" and are enforceable by both LDEQ and EPA. All LAC 33:III.501.C.6 citations are federally enforceable unless otherwise noted.

### **3. State-Only Regulations**

Individual chapters or sections of LAC 33:III noted by an asterisk in Section X (Table 1) are designated "state-only" pursuant to 40 CFR 70.6(b)(2). Terms and conditions of the proposed permit citing these chapters or sections are not SIP-approved and are not subject to the requirements of 40 CFR Part 70. These terms and conditions are enforceable by LDEQ, but not EPA. All conditions not designated as "state-only" are presumed to be federally enforceable.

#### State MACT (LAC 33:III.Chapter 51)

The facility is part of a major source of LAC 33:III.Chapter 51 regulated TAP. The owner or operator of any major source that emits or is permitted to emit a Class I or Class II TAP at a rate equal to or greater than the Minimum Emission Rate (MER) listed for that pollutant in LAC 33:III.5112 shall control emissions of that TAP to a degree that constitutes Maximum Achievable Control Technology (MACT), except that compliance with an applicable federal standard promulgated by the U.S. EPA in 40 CFR Part 63 shall constitute compliance with MACT for emissions of toxic air pollutants. Applicable Part 63 standards are addressed in Section VIII.1 of this Statement of Basis. MACT is not

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC. LAKE CHARLES, CALCASIEU PARISH, LOUISIANA Agency Interest (AI) No. 1255 Activity No. PER20090024 Proposed Permit No. 2350-V2

required for Class III TAPs; however, the impact of all TAP emissions must be below their respective Ambient Air Standards (AAS).

MACT determinations pursuant to Chapter 51 are cited as LAC 33:III.5109.A in the proposed permit.

#### **IX. NEW SOURCE REVIEW (NSR)**

##### **1. Prevention of Significant Deterioration (PSD)**

The facility's source category is listed in Table A of the definition of "major stationary source" in LAC 33:III.509. As such, the PSD major source threshold is 100 TPY (of any regulated NSR pollutant).

The facility is part of a major stationary source under the PSD program, LAC 33:III.509. However, there are no physical changes or changes in the method of operation associated with this permit renewal. PSD review is not required.

##### **2. Nonattainment New Source Review (NNSR)**

The facility is located in an attainment area; therefore, NNSR is not required.

##### **3. Notification of Federal Land Manager**

The Federal Land Manager (FLM) is responsible for evaluating a facility's projected impact on the Air Quality Related Values (AQRV) (e.g., visibility, sulfur and nitrogen deposition, any special considerations concerning sensitive resources, etc.<sup>3</sup>) and recommending that LDEQ either approve or disapprove the facility's permit application based on anticipated impacts. The FLM also may suggest changes or conditions on a permit. However, LDEQ makes the final decision on permit issuance. The FLM also advises reviewing agencies and permit applicants about other FLM concerns, identifies AQRV and assessment parameters for permit applicants, and makes ambient monitoring recommendations.

If LDEQ receives a PSD or NNSR permit application for a facility that "may affect" a Class I area, the FLM charged with direct responsibility for managing these lands is notified.

The meaning of the term "may affect" is interpreted by EPA policy to include all major sources or major modifications which propose to locate within 100 kilometers (km) of a Class I area. However, if a major source proposing to locate at a distance greater than 100 km is of such size that LDEQ or the FLM is concerned about potential impacts on a Class I area, LDEQ can ask the applicant to perform an analysis of the source's potential emissions impacts on the Class I area. This is because certain meteorological conditions.

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<sup>3</sup> See <http://www2.nature.nps.gov/air/Permits/ARIS/AQRV.cfm>.

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
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Agency Interest (AI) No. 1255  
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Proposed Permit No. 2350-V2**

or the quantity or type of air emissions from large sources located further than 100 km, may cause adverse impacts. In order to determine whether a source located further than 100 km may affect a Class I area, LDEQ uses the Q/d approach.

Q/d refers to the ratio of the sum of the net emissions increase (in tons) of PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and H<sub>2</sub>SO<sub>4</sub> to the distance (in kilometers) of the facility from the nearest boundary of the Class I area.

$$Q/d = \frac{PM_{10(NEI)} + SO_{2(NEI)} + NO_{x(NEI)} + H_2SO_{4(NEI)}^4}{\text{Class I km}}$$

Where:

PM <sub>10(NEI)</sub>	=	net emissions increase of PM <sub>10</sub>
SO <sub>2(NEI)</sub>	=	net emissions increase of SO <sub>2</sub>
NO <sub>x(NEI)</sub>	=	net emissions increase of NO <sub>x</sub>
H <sub>2</sub> SO <sub>4(NEI)</sub>	=	net emissions increase of H <sub>2</sub> SO <sub>4</sub>
Class I km	=	distance to nearest Class I area (in kilometers)

If Q/d ≥ 4, LDEQ will formally notify the FLM in accordance with LAC 33:III.509.P.1.

The proposed changes do not trigger PSD review or NNSR. Therefore, LDEQ has determined that the proposed project will not adversely impact visibility in Breton National Wildlife Refuge/Caney Creek Wilderness Area, the nearest Class I area.

#### 4. Reasonable Possibility

Since no physical changes or changes in the method of operation are proposed with this permit renewal, there is no “reasonable possibility” that the proposed project may result in a significant emissions increase.

#### X. ADDITIONAL MONITORING AND TESTING REQUIREMENTS

In addition to the monitoring and testing requirements set forth by applicable state and federal regulations (see Section VIII of this Statement of Basis), a number of “LAC 33:III.507.H.1.a” and/or “LAC 33:III.501.C.6” conditions may appear in the “Specific Requirements” section of the proposed permit. These conditions have been added where no applicable regulation exists or where an applicable regulation does not contain sufficient monitoring, recordkeeping, and/or reporting provisions to ensure compliance. LAC 33:III.507.H.1.a provisions, which may include recordkeeping requirements, are intended to fulfill Part 70 periodic monitoring obligations under 40 CFR 70.6(a)(3)(i)(B).

<sup>4</sup> If both NNSR and PSD review are required, the higher of the two “net emissions increase” values has been selected. The net emissions increase for NNSR and PSD purposes may be different due to differing contemporaneous periods. If the net emissions increase of any pollutant is negative, the value used in the equation has been set to zero. If the project did not trigger a netting analysis, LDEQ uses the project increase (see §504.A.3 (NNSR) and §509.A.4 (PSD)). In this case, the value will be less than the pollutant’s significance level

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
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### **XI. OPERATIONAL FLEXIBILITY**

#### Emissions Caps

An emissions cap is a permitting mechanism to limit allowable emissions of two or more emissions units below their collective potential to emit (PTE). The proposed permit does not establish an emissions cap.

#### Alternative Operating Scenarios

LAC 33:III.507.G.5 allows the owner or operator to operate under any operating scenario incorporated in the permit. Any reasonably anticipated alternative operating scenarios may be identified by the owner or operator through a permit application and included in the permit. The proposed permit does not include an alternative operating scenario.

#### Streamlined Requirements

When applicable requirements overlap or conflict, the permitting authority may choose to include in the permit the requirement that is determined to be most stringent or protective as detailed in EPA's "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program" (March 5, 1996). The overall objective is to determine the set of permit terms and conditions that will assure compliance with all applicable requirements for an emissions unit or group of emissions units so as to eliminate redundant or conflicting requirements. The proposed permit does not contain streamlined provisions.

### **XII. PERMIT SHIELD**

A permit shield, as described in 40 CFR 70.6(f) and LAC 33:III.507.I, provides an "enforcement shield" which protects the facility from enforcement action for violations of applicable federal requirements. It is intended to protect the facility from liability for violations if the permit does not accurately reflect an applicable federal or federally enforceable requirement.

The application requested a permit shield for determinations of non-applicability and exemption of 40 CFR Part 60, Part 61, and Part 63 and Louisiana Regulations for numerous point sources. Since the requested determinations are straightforward based on the applicability and exemption criteria of the related regulations and have been presented in the Table 2 of the proposed permit, a permit shield for such determinations is not necessary. No permit shield is granted.

### **XIII. IMPACTS ON AMBIENT AIR**

Emissions associated with the proposed modification were reviewed by the Air Quality Assessment Division to ensure compliance with the NAAQS and AAS. LDEQ did not require the applicant to model emissions.

## STATEMENT OF BASIS

**LAKE CHARLES COMPLEX – GREATER EDC UNIT  
PPG INDUSTRIES, INC.  
LAKE CHARLES, CALCASIEU PARISH, LOUISIANA  
Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

### XIV. COMPLIANCE HISTORY AND CONSENT DECREES

The Facility's compliance history can be found in Section 2 of the permit application. It must be disclosed per LAC 33:III.517.E and 517.D.12, if applicable.

No federal or state actions have been issued since the current permit for the Facility was issued.

### XV. REQUIREMENTS THAT HAVE BEEN SATISFIED

The following state and/or federal obligations have been satisfied and are therefore not included as Specific Requirements.

<u>Source ID</u>	<u>Citation</u>	<u>Description</u>
UNF0010	40 CFR 63.151(b)	Initial HON notification

### XVI. OTHER REQUIREMENTS

Executive Order No. BJ 2008-7 directs all state agencies to administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with Louisiana's Comprehensive Master Plan for a Sustainable Coast and public interest to the maximum extent possible. If a proposed facility or modification is located in the Coastal Zone, LDEQ requires the applicant to document whether or not a Coastal Use Permit is required, and if so, whether it has been obtained. Coastal Use Permits are issued by the Coastal Management Division of the Louisiana Department of Natural Resources (LDNR).

The facility is not located in the Coastal Zone; therefore, a Coastal Use Permit is not required.

### XVII. PUBLIC NOTICE/PUBLIC PARTICIPATION

Written comments, written requests for a public hearing, or written requests for notification of the final decision regarding this permit action may be submitted to:

Ms. Soumaya Ghosn  
LDEQ, Public Participation Group  
P.O. Box 4313  
Baton Rouge, Louisiana 70821-4313

Written comments and/or written requests must be received prior to the deadline specified in the public notice. If LDEQ finds a significant degree of public interest, a

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public hearing will be held. All comments will be considered prior to a final permit decision.

LDEQ will send notification of the final permit decision to the applicant and to each person who has submitted written comments or a written request for notification of the final decision.

The permit application, proposed permit, and this Statement of Basis are available for review at LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, Louisiana. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). Additional copies may be viewed at the local library identified in the public notice. The available information can also be accessed electronically via LDEQ's Electronic Document Management System (EDMS) on LDEQ's public website, [www.deq.louisiana.gov](http://www.deq.louisiana.gov).

Inquiries or requests for additional information regarding this permit action should be directed to the contact identified on page 1 of this Statement of Basis.

Persons wishing to be included on the public notice mailing list or for other public participation-related questions should contact LDEQ's Public Participation Group at P.O. Box 4313, Baton Rouge, LA 70821-4313; by e-mail at [maillistrequest@ldeq.org](mailto:maillistrequest@ldeq.org); or contact LDEQ's Customer Service Center at (225) 219-LDEQ (219-5337). Alternatively, individuals may elect to receive public notices via e-mail by subscribing to LDEQ's Public Notification List Service at [http://www.doa.louisiana.gov/oes/listservpage/ldeq\\_pn\\_listserv.htm](http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm).

Permit public notices can be viewed at LDEQ's "Public Notices" webpage, <http://www.deq.louisiana.gov/apps/pubNotice/default.asp>. Electronic access to each proposed permit and Statement of Basis current on notice is also available on this page. General information related to public participation in permitting activities can be viewed at [www.deq.louisiana.gov/portal/tabid/2198/Default.aspx](http://www.deq.louisiana.gov/portal/tabid/2198/Default.aspx).

## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC. LAKE CHARLES, CALCASIEU PARISH, LOUISIANA Agency Interest (AI) No. 1255 Activity No. PER20090024 Proposed Permit No. 2350-V2

## APPENDIX A - ACRONYMS

AAS	Ambient Air Standard (LAC 33:III.Chapter 51)
AP-42	EPA document number of the Compilation of Air Pollutant Emission Factors
BACT	Best Available Control Technology
BTU	British Thermal Units
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAM	Compliance Assurance Monitoring, 40 CFR 64
CEMS	Continuous Emission Monitoring System
CMS	Continuous Monitoring System
CO	Carbon monoxide
COMS	Continuous Opacity Monitoring System
CFR	Code of Federal Regulations
EI	Emissions Inventory (LAC 33:III.919)
EPA	(United States) Environmental Protection Agency
EQ	Emission Inventory Questionnaire
ERC	Emission Reduction Credit
FR	Federal Register or Fixed Roof
H <sub>2</sub> S	Hydrogen sulfide
H <sub>2</sub> SO <sub>4</sub>	Sulfuric acid
HAP	Hazardous Air Pollutants
Hg	Mercury
HON	Hazardous Organic NESHAP
IBR	Incorporation by Reference
LAER	Lowest Achievable Emission Rate
LDEQ	Louisiana Department of Environmental Quality
M	Thousand
MM	Million
MACT	Maximum Achievable Control Technology
MEK	Methyl ethyl ketone
MIK	Methyl isobutyl ketone
MSDS	Material Safety Data Sheet
MTBE	Methyl tert-butyl ether
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industrial Classification System (replacement to SIC)
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compounds



## STATEMENT OF BASIS

### LAKE CHARLES COMPLEX – GREATER EDC UNIT PPG INDUSTRIES, INC.

### LAKE CHARLES, CALCASIEU PARISH, LOUISIANA

Agency Interest (AI) No. 1255

Activity No. PER20090024

Proposed Permit No. 2350-V2

## APPENDIX A - ACRONYMS

NOx	Nitrogen Oxides
NNSR	Nonattainment New Source Review
NSPS	New Source Performance Standards
NSR	New Source Review
OEA	LDEQ Office of Environmental Assessment
OEC	LDEQ Office of Environmental Compliance
OES	LDEQ Office of Environmental Services
PM	Particulate Matter
PM10	Particulate Matter less than 10 microns in nominal diameter
PM2.5	Particulate Matter less than 2.5 microns in nominal diameter
ppm	parts per million
ppmv	parts per million by volume
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RBLC	RACT-BACT-LAER Clearinghouse
RMP	Risk Management Plan (40 CFR 68)
SICC	Standard Industrial Classification Code
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SOCMI	Synthetic Organic Chemical Manufacturing Industry
TAP	Toxic Air Pollutants (LAC 33:III.Chapter 51)
TOC	Total Organic Compounds
TPY	Tons Per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
µg/m3	Micrograms per Cubic Meter
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound
VOL	Volatile Organic Liquid
VRU	Vapor Recovery Unit

## STATEMENT OF BASIS

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Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

## APPENDIX B – GLOSSARY

*Best Available Control Technologies (BACT)* – an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this Part (Part III) which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

*CAM - Compliance Assurance Monitoring* – A federal air regulation under 40 CFR Part 64.

*Carbon Monoxide (CO)* – (Carbon monoxide) a colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

*Cooling Tower* – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

*Continuous Emission Monitoring System (CEMS)* – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

*Cyclone* – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

*Federally Enforceable Specific Condition* – A federally enforceable specific condition written to limit the potential to Emit (PTE) of a source that is permanent, quantifiable, and practically enforceable. In order to meet these requirements, the draft permit containing the federally enforceable specific condition must be placed on public notice and include the following conditions:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;
- Recordkeeping requirements related to the operational limitation or condition;
- A requirement that these records be made available for inspection by LDEQ personnel;
- A requirement to report for the previous calendar year.

*Grandfathered Status* - those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

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LAKE CHARLES, CALCASIEU PARISH, LOUISIANA  
Agency Interest (AI) No. 1255  
Activity No. PER20090024  
Proposed Permit No. 2350-V2**

## APPENDIX B – GLOSSARY

*Lowest Achievable Emission Rate (LAER)* – for any source, the more stringent rate of emissions based on the following:

- a. the most stringent emissions limitation that is contained in the implementation plan of any state for such class or category of major stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
- b. the most stringent emissions limitation that is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified major stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

*NESHAP* – National Emission Standards for Hazardous Air Pollutants – Air emission standards for specific types of facilities, as outlined in 40 CFR Parts 61 through 63.

*Maximum Achievable Control Technology (MACT)* – the maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

*NSPS* – New Source Performance Standards – Air emission standards for specific types of facilities, as outlined in 40 CFR Part 60.

*New Source Review (NSR)* – a preconstruction review and permitting program applicable to new or modified major stationary sources of criteria air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

*Nonattainment New Source Review (NNSR)* – a New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) set forth at 40 CFR Part 50. NNSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

*Organic Compound* – any compound of carbon and another element. Examples: methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), carbon disulfide (CS<sub>2</sub>).

*Part 70 Operating Permit* – also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507.

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LAKE CHARLES, CALCASIEU PARISH, LOUISIANA  
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Activity No. PER20090024  
Proposed Permit No. 2350-V2**

## APPENDIX B – GLOSSARY

*PM<sub>10</sub>* – particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

*Potential to Emit (PTE)* – the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

*Prevention of Significant Deterioration (PSD)* – a New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

*Selective Catalytic Reduction (SCR)* – A non-combustion control technology that destroys NO<sub>x</sub> by injecting a reducing agent (e.g., ammonia) into the flue gas that, in the presence of a catalyst (e.g., vanadium, titanium, or zeolite), converts NO<sub>x</sub> into molecular nitrogen and water.

*Sulfur Dioxide (SO<sub>2</sub>)* – An oxide of sulphur.

*TAP* – LDEQ acronym for toxic air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3.

*“Top Down” Approach* – An approach which requires use of the most stringent control technology found to be technically feasible and appropriate based on environmental, energy, economic, and cost impacts.

*Title V permit* – see Part 70 Operating Permit.

*Volatile Organic Compound (VOC)* – any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the Administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.